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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/998,734	10/31/2001	James A. Lynn	01-022	7025
24319	7590	06/23/2005	EXAMINER	
LSI LOGIC CORPORATION 1621 BARBER LANE MS: D-106 MILPITAS, CA 95035			SWEARINGEN, JEFFREY R	
			ART UNIT	PAPER NUMBER
			2145	

DATE MAILED: 06/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/998,734

Applicant(s)

LYNN ET AL.

Examiner

Jeffrey R. Swearingen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 March 2005.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 2,3,10,15,18 and 22-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,4-9,11-14,16,17,19-21 and 25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Drawings***

1. Applicant has corrected the drawings; the objection to the drawings is hereby withdrawn.

### ***Specification***

2. Applicant has amended the specification; the objection to the specification is hereby withdrawn.

### ***Claim Objections***

3. Due to cancellation of claim 2, the objection to claim 2 is withdrawn.

### ***Double Patenting***

4. The double patenting rejection is withdrawn due to amendment.

### ***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 9, 10-12, 14, 16-17, 19-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Fibre Channel Framing and Signaling working draft proposal, Rev. 1.30, published July 9, 2001, hereafter referred to as FC-FS Draft Standard.

7. Regarding claim 1, the FC-FS Draft Standard discloses a multi-ported system with two links that allow for speed negotiation between ports on a channel. The Speed Negotiation algorithm asks for a speed change and then alters the speed of the channel based upon that request. [See FC-FS Draft Standard, pages 532-533.] The diagram shown only presents two ports, but since the Speed Negotiation

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algorithm works in the Fibre Channel system, which commonly utilizes multiple ports in a daisy chain or loop, the diagram could be inherently extended to cover all ports in the chain. A bridge controller is taught on pages 20-21 of the FC-FS Draft Standard. By this rationale claim 1 is rejected.

8. Regarding claim 9, the limitations of this claim are substantially the same as the limitations of claim 1. Therefore the rationale for rejecting claim 1 is applicable for rejecting claim 9. By this rationale claim 9 is rejected.

9. Regarding claim 11, the FC-FS Draft Standard is applied as in claim 10. The FC-FS Draft Standard further discloses that Fibre Channel is bi-directional in nature. [See FC-FS Draft Standard, page 17, section 4.1.] By this rationale claim 11 is rejected.

10. Regarding claim 12, the FC-FS Draft Standard is applied as in claim 10. The FC-FS Draft Standard deals with fibre channel devices being connected. [...*specifies a variety of media, and associated drivers and receivers capable of operating at various speeds.* See FC-FS Draft Standard, page 17, section 4.1.] By this rationale claim 12 is rejected.

11. Regarding claim 14, the FC-FS Draft Standard is applied as in claim 10. Examiner takes Official Notice that a microprocessor can be integrated into a node. Microprocessors were well known in the art at the time of the invention and had been in use in multiple applications in the networking arts for decades preceding the invention. The addition of a microprocessor is commonplace for most networking applications. By this rationale claim 14 is rejected.

12. Regarding claim 16, the limitations of this claim are substantially the same as the limitations of claim 1. Therefore the rationale used to reject claim 1 is also used to reject claim 16. By this rationale claim 16 is rejected.

13. Regarding claim 17, the FC-FS Draft Standard is applied as in claim 16. The FC-FS Draft Standard discloses having a forward and a reverse connection between two nodes. [See FC-FS Draft Standard, page 532, Figure 58.] By this rationale claim 17 is rejected.

14. Regarding claim 19, the FC-FS Draft Standard is applied as in claim 18. The FC-FS Draft Standard further discloses the presence of a controller and nodes [a *bridge controller and enclosure service modules.* See FC-FS Draft Standard, page 21, Figure 3.] By this rationale claim 19 is rejected.

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15. Regarding claim 20, the FC-FS Draft Standard is applied as in claim 19. The FC-FS Draft Standard further discloses transmitting information between nodes in a frame format. [See FC-FS Draft Standard, page 36, section 5.1.] The FC-FS Draft Standard deals with fibre channel devices being connected. [...specifies a variety of media, and associated drivers and receivers capable of operating at various speeds. See FC-FS Draft Standard, page 17, section 4.1.] By this rationale claim 20 is rejected.

16. Regarding claim 21, the FC-FS Draft Standard is applied as in claim 20. The FC-FS Draft Standard further discloses passing a command signal to change a parameter between nodes using a channel. [See FC-FS Draft Standard, pages 532-546.] By this rationale claim 21 is rejected.

### ***Claim Rejections - 35 USC § 103***

17. Claims 4, 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over the FC-FS Draft Standard.

18. Regarding claim 4, the FC-FS Draft Standard is applied as in claim 3. The FC-FS Draft Standard further states that the Speed Negotiation algorithm is specified for only one port at a time, but fails to explicitly state that each port in a channel must be negotiated individually in order. However, the Speed Negotiation algorithm is applied between links as shown in Figure 58. In Figure 6 [page 24] ports are shown in a loop topology. It would be obvious to one of ordinary skill in the art that in order to negotiate speed on all ports in a channel, one at a time, that they would have to be done in consecutive order after each port has its individual speed negotiated based upon the limits of the Speed Negotiation algorithm as stated in Section 29 of the FC-FS Draft Standard. By this rationale claim 4 is rejected.

19. Regarding claim 6, the FC-FS Draft Standard is applied as in claim 4. The FC-FS Draft Standard deals with fibre channel devices being connected. [...specifies a variety of media, and associated drivers and receivers capable of operating at various speeds. See FC-FS Draft Standard, page 17, section 4.1.] By this rationale claim 6 is rejected.

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20. Regarding claim 7, the FC-FS Draft Standard is applied as in claim 4. The FC-FS Draft Standard further discloses transmitting information between nodes in a frame format. [See FC-FS Draft Standard, page 36, section 5.1.] By this rationale claim 7 is rejected.

21. Regarding claim 8, the FC-FS Draft Standard is applied as in claim 4. The FC-FS Draft Standard further discloses switching speed within 1 millisecond from the time the algorithm asks for a speed change. [Examiner considers this to meet the criteria of "on-the-fly." See FC-FS Draft Standard, page 533.] By this rationale claim 8 is rejected.

22. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over the FC-FS Draft Proposal and Wall et al. (U.S. Patent No. 6,507,923).

23. Regarding claim 5, the FC-FS Draft Proposal is applied as in claim 4. The FC-FS Draft proposal fails to explicitly disclose use of a third channel in the system.

24. However, Wall discloses a Fibre Channel system that can accommodate up to sixteen separate channels. [See Wall, column 2, lines 60-65.]

25. It would have been obvious to one of ordinary skill in the networking art at the time of the invention to combine the teachings of Wall and the FC-FS Draft Proposal. The addition of extra channels allows for greater troubleshooting abilities in a more complex Fibre Channel system. [See Wall, column 1, line 29 – column 2, line 57.] The FC-FS Draft Proposal gives motivation for the combination by stating that it can allow for improvements, clarifications, and other capabilities, which will improve the performance of Fibre Channel products and fit those products for new applications. [See FC-FS Draft Proposal, page ii, Abstract.] By this rationale claim 5 has been rejected.

26. Claim 13 rejected under 35 U.S.C. 103(a) as being unpatentable over the FC-FS Draft Proposal and Mulvey et al. (U.S. Patent No. 6,629,216).

27. Regarding claim 13, the FC-FS Draft Proposal is applied as in claim 10. The FC-FS Draft Proposal fails to disclose the ability to bypass a disk drive.

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28. However, Mulvey discloses a fibre channel system that has the ability to bypass disk drives.

Mulvey discloses a by-pass selector section, which can bypass a disk drive. [See Mulvey, Abstract. See Mulvey, column 2, lines 31-49.]

29. It would have been obvious to one of ordinary skill in the networking art at the time of the invention to combine the teachings of the FC-FS Draft Proposal and Mulvey for the purpose of preventing disruption of the system if one drive goes bad. [See Mulvey, column 1, lines 56 – 67.] The FC-FS Draft Proposal gives motivation for the combination by stating that it can allow for improvements, clarifications, and other capabilities, which will improve the performance of Fibre Channel products and fit those products for new applications. [See FC-FS Draft Proposal, page ii, Abstract.] By this rationale claim 13 has been rejected.

30. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over the FC-FS Draft Proposal as applied to claim 1.

31. In the FC-FS Draft Proposal, a method of changing speed on channels of a port is described. It is not explicitly taught to do this at all ports in the daisy chain. However, one of ordinary skill in the art would find it obvious to repeat this modification for all ports (*enclosure services modules*) in order to eliminate race conditions in the transmitted signals, therefore preventing congestion and packet loss.

### ***Response to Arguments***

32. Applicant's arguments filed 3/28/2005 have been fully considered but they are not persuasive.

33. Applicant has successfully overcome the objections to the specification, drawings, and claims by amendment.

34. The amendment to the claims has additionally overcome the double patenting rejections.

35. Applicant's only argument against the rejections of claims involves "sending the change speed frame from a bridge controller to the selected enclosure services module." Referring to pages 20-21 of the FC-FS Draft Standard, *Figure 3 depicts the FC-FS physical model and illustrates the FC-FS physical structure and components*. Figure 3 shows the presence of a Fabric Controller connected to a system

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with two channels. One of ordinary skill in the art would infer that a component having the name of "Fabric Controller" would mean that it is inherent to the Fabric Controller to perform the function of controlling the fabric, because in the art of networking, it is often common to name components according to the function they perform (e.g. a router "routes" network traffic, a switch "switches" between connections, a monitor allows someone to "monitor" the status of the network). Controlling the fabric would include controlling the speed of the channel. Controlling the speed of the channel would include sending the change speed frame from the controller. It is inherent that the Speed Negotiation algorithm implemented in the FC-FS Draft Standard would have a controller implementing it, in order to fulfill the necessary physical requirements of the architecture according to the list of seven points found on page 533 of the FC-FS Draft Standard. Applicant argues that no *centralized implementation of the speed negotiation algorithm* is taught by the reference; however the Examiner reminds Applicant that no *centralized implementation of the speed negotiation algorithm* is explicitly claimed due to the breadth of the claims currently submitted.

36. Applicant has not argued any other points in the remarks.

### **Conclusion**

37. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.




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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey R. Swearingen whose telephone number is (571) 272-3921. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Valencia Martin-Wallace can be reached on 571-272-6159. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JRS

  
VALENCIA MARTIN-WALLACE  
SUPERVISORY PATENT EXAMINER